Short Communication

Case for equity between Paris Climate agreement's Co-benefits and adaptation

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HIGHLIGHTS

• Adaptation policy actions of the Paris Climate Agreement lacked specific targets.
• Non-climate benefits of mitigation policies called co-benefits are adaptation-related.
• Standalone mitigation policy could not significantly reduce additional adaptation cost.
• Sustainable adaptation management also provides benefits to mitigation.
• Increased adaptation credence of Paris Climate Agreement’s Articles 7 could increase co-benefits.

GRAPHICAL ABSTRACT

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ABSTRACT

There are heightened debates on limited opportunity of the global adaptation policy goals of the Paris Climate Agreement (PaCA) to match efforts at mitigation and adaptation. This has been attributed partially to the over-statement in Article 7 Paragraph 4 of the PaCA that “greater levels of mitigation” reduces the cost of additional adaptation through mitigation Co-benefits. Therefore, the paper explores how Article 7 of the PaCA partially faults the natural synergy between mitigation and adaptation to equally reduce aggregate emission, although mitigation could help reduce adaptation to physical exposure. Co-benefits are non-climate ancillary benefits from emission reduction that is human-centered. Article 7 of the PaCA overtly favors efforts at mitigation compared to adaptation, yet how much mitigation benefits match adaptation cost including human dimension issues remain speculative and also constrained emission leakages. Thus, the sole attribution of avoiding additional adaptation cost to increased mitigation efforts is far from the reality as adaptation could offset its own additional cost through benefits that reduce emissions, and synonymous to mitigation Co-benefits. For example, the adaptation intentions of ecosystem-based adaptation (Eba), urban NEXUS, integrated water resources management (IWRM), and climate smart agriculture (CSA) in aspects of biodiversity conservation, energy redistribution from human activity, water purification and nutrient recycling are also major sources of emission sink. Therefore, the Article 7 of the PaCA could be enhanced by broadening the definition of Co-benefits to reflect the two-way equity-bound efforts at mitigation and adaptation towards reduced emission leakages and additional adaptation cost.

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1. Introduction

1.1. The synergy between mitigation and adaptation efforts

The Paris Climate Agreement (PaCA) has been described as the most politically accepted protocol under the United Nations Convention on Climate Change (UNFCCC) towards a 2 °C target (Savarese, 2016). In order to reduce the concentration of greenhouse gases and global warming, hence climate change, efforts conceived to be effective, fair and acceptable to all Parties under the PaCA, were addressed in the Nationally Determined Contributions (NDCs) (UNFCCC, 2015). Whilst the PaCA is commended for having specific targets for mitigation, the same could not be said about adaptation which has broadly defined goals (UNFCCC, 2015). The PaCA has also resulted in the re-emergence of debates on Co-benefits, and in Article 7 Paragraph 4, "Parties recognize that the current need for adaptation is significant and that greater levels of mitigation can reduce the need for additional adaptation efforts, and that greater adaptation needs can involve greater adaptation costs". However, the "...greater levels of mitigation..." in Article 7 on saving cost of additional adaptation has been questioned and that, relying on efforts at mitigation alone to reduce additional adaptation cost has been described as a panacea (e.g. Peters et al., 2015). Therefore Green (2015) argues that the current strategy on mitigation lacks balance after they found that globally, in 2014, the heavily subsidized non-hydro renewable energies (NHREs) accounted for only 31.2 EJ/yr or 0.4 Tw of 17.1 Tw consumed. (BP 2015 with millions of toe converted to metric energy and power), implying that the PaCAs below 2 °C goal will have to open a new technology-oriented front to respond to and adapt to global warming (Green, 2015; Peters et al., 2015). Therefore, not getting efforts at mitigation right in the current context of the Article 7 could rather increase the cost of additional adaptation. Williamson (2016) questions how much of CO2 can be removed from the atmosphere without upsetting acceptable levels of GHGs for normalization of the earth's processes and thus putting adaptation as equally important as mitigation.

Thus, the PaCAs Article 7 partially demonstrated that tackling GHG emissions is incompatible with sustained economic growth as Nation States and international corporations expand their fossil fuel energy exploration, extraction and combustion even when the Paris Agreement was going on (Spash, 2016). These were undertaken at the expense of biophysical, economic and social equity which underlie the core principle was going on (Spash, 2016). In order to reduce the concentration of greenhouse gases and global warming, hence climate change, efforts conceived to be effective, fair and acceptable to all Parties under the PaCA, were addressed in the Nationally Determined Contributions (NDCs) (UNFCCC, 2015). Whilst the PaCA is commended for having specific targets for mitigation, the same could not be said about adaptation which has broadly defined goals (UNFCCC, 2015). The PaCA has also resulted in the re-emergence of debates on Co-benefits, and in Article 7 Paragraph 4, "Parties recognize that the current need for adaptation is significant and that greater levels of mitigation can reduce the need for additional adaptation efforts, and that greater adaptation needs can involve greater adaptation costs". However, the "...greater levels of mitigation..." in Article 7 on saving cost of additional adaptation has been questioned and that, relying on efforts at mitigation alone to reduce additional adaptation cost has been described as a panacea (e.g. Peters et al., 2015). Therefore Green (2015) argues that the current strategy on mitigation lacks balance after they found that globally, in 2014, the heavily subsidized non-hydro renewable energies (NHREs) accounted for only 31.2 EJ/yr or 0.4 Tw of 17.1 Tw consumed. (BP 2015 with millions of toe converted to metric energy and power), implying that the PaCAs below 2 °C goal will have to open a new technology-oriented front to respond to and adapt to global warming (Green, 2015; Peters et al., 2015). Therefore, not getting efforts at mitigation right in the current context of the Article 7 could rather increase the cost of additional adaptation. Williamson (2016) questions how much of CO2 can be removed from the atmosphere without upsetting acceptable levels of GHGs for normalization of the earth's processes and thus putting adaptation as equally important as mitigation.

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Thus, the PaCA's below 2 °C goal was initially associated with the precautionary principle of prevention (designed to mitigate the occurrence of climate change effects), as well as a paradigm that "...the climate change problem is a central public policy concern..." (Boucher et al., 2016; Dimitrov, 2016; Hale, 2016; van der Ven et al., 2017).

2. The PaCA and re-emergence of Co-benefits

2.1. Greater levels of mitigation, adaptation and contestations

The PaCA became a new approach within the international climate change negotiations based on the provision of upfront data about countries' NDCs in a consistent and transparent manner, in line with goals of the Convention. The approach involved Parties identifying and taking on actions under the future UNFCCC climate agreement which was negotiated in December 2015 in Paris (UNEP, 2017; UNFCCC, 2015). The presently significant gap between the aggregate effect of Parties' mitigation pledges by 2020 and the aggregate emission pathways in holding the global average temperature within 2 °C, provides opportunity for redefining the sources of mitigation. The PaCA which is expected to address in a balanced manner, inter alia, mitigation, adaptation, finance, technology development and transfer, and capacity-building, and transparency of action and support (UNFCCC, 2015), must resolve
the homocentric approach to mitigation. For example it is unclear how issues of vulnerability, adaptation and response measures to climate change impacts could emerge from the focus on mitigation alone because there are limitations to targets of the PaCA in harnessing benefits of the intersection between (i) development strategies and mitigation strategies (e.g. low-carbon development), (ii) development strategies and adaptation strategies (climate resilient development), and (iii) mitigation strategies and adaptation strategies (i.e. Co-benefits). This is characteristic of the climate compatible model of the Climate Development and Knowledge Network (Mitchell and Maxwell, 2010).

The interest in Co-benefits (Fig. 1) is growing among the research, policy and practitioner communities because of its overarching effects on the NDCs in reducing the global aggregated emission defined by the Intergovernmental Panel on Climate Change (IPCC) as the Non-climate benefits of GHG mitigation policies that are explicitly incorporated into the initial creation of mitigation policies (IPCC, 2001). Thus, the term “Co-benefits reflects that most policies designed to address GHG mitigation also have other, often at least equally important, rationales involved at the inception of these policies (e.g., related to objectives of development, sustainability, and equity)” (IPCC, 2001). Yet because Co-benefits lean more towards the interest of countries less vulnerable to climate change than those that are more vulnerable, it could become a disincentive for those not always responsible for the emission to fully commit to the NDCs. This is because Co-benefits involve maximizing economic opportunities, driven mostly by new green technologies and underlain by investments that focus on emissions cut to save money and facilitates development innovation, yet these are mostly affordable to developed nations (OECD, 2014). Such Co-benefits range from energy savings in the energy, agriculture and transport sectors through health and ecosystem benefits in aspects of soil, water and air purification. Recent analyses supported this thesis (e.g., Buxton, 2016; Mat et al., 2016; Pathak and Shukla, 2016; Rosen and Guenther, 2015; Weng et al., 2017). There is growing literature on Co-benefits especially on health and mostly from pollution studies (e.g. Gao et al., 2018; Sarigiannis et al., 2017). Tangible examples are active travel such as cycling and non-land transport, biofuels for nutrient recycling, stabilization of organic matter, water reuse and recycling, resistant transportation such as Rapid Bus Transit and reduced transport equipment, energy circulation in the form of solar electrification and green infrastructure among others (Jensen et al., 2013; Kriegler et al., 2012; Puppim de Oliveira et al. 2013; Spalding et al., 2014). Re-allocation of demand again leads to leakages of GHG emissions to other production sectors hence could be a major reason why larger efforts at mitigation alone would not avert additional adaptation cost (Jensen et al., 2013). Thus, leakages of GHG emissions will likely come with costs that may not be effective hence the need for a mix of strategies which go beyond mitigation (Jensen et al., 2013). It is well established that climate change adaptation and mitigation are policy substitutes to ameliorate the impacts of climate change, and should therefore be analyzed together when accounting for the abatement of emission (Thornton and Comberti, 2017; Tol, 2005).

2.2. Enhanced mainstreaming of adaptation, Articles 2 and 7

Exploring how adaptation solutions could support the Co-benefits in meeting the mitigation objectives of the convention brings immense political disconnect between Article 7 and other policy actions. Thus, of the twenty-nine Articles of the Agreement, Articles 2 and 7 demonstrate elements that if combined, could deal with the substantive issues on Co-benefits, which are crucial in enhancing or diminishing the role of adaptation, and the focus of this paper. Although the PaCA Articles look robust, the most significant test lies with its relationship with the NDCs (Boucher et al., 2016; Magnan, 2016), and other global policies such as the Sustainable Development Goals (SDGs). In the Article 8, the Convention defined areas of cooperation and facilitation to enhance understanding, action and support which also have links with the SDGs. Therefore the Articles 2 and 7 did not provide strong and sufficient policy momentum in the context of sustainable development which could undermine the attainment of the SDG 13 which states that “Take urgent action to combat climate change and its impacts” (United Nations, 2015). Hence the perceived weaknesses in the PaCA (e.g. Buxton, 2016; Castree, 2016; Christoff, 2016; Dovie and Lwasa, 2017; Fawcett et al., 2015; Green, 2015; Lowe, 2015; Magnan, 2016) are better viewed from drawing synergies between the individual Articles. Such is the case for drawing coherence between Articles 2 and 7, and although it was not probably meant to be so, the Articles have ended up subsuming additional adaptation under mitigation hence one could not have said that the PaCA was not without serious challenges (Dovie and Lwasa, 2017). However, as Savarese (2016) suggested, there are bound to be gaps related to the value of the PA to PA hence the need to point out these as analysed in this paper. Whilst the Durban Platform attempted to emphasize the relevance of adaptation to the negotiations, the premise was too broad such that it did not refer explicitly to the principle of common but differentiated responsibilities to enable those who polluted most to be held accountable (Maljean-Dubois and Wemaere, 2012). Thus, the Durban Platform was only a revision of the Marrakech 2005 Agreement on establishing Climate Fund for adaptation, technology transfer, economic diversification in sectors such as energy, transport, industry, agriculture, forestry, waste management, and Least-Developed Countries Fund yet there were no benchmark indicators for...
these. Hence the call for having metrics to track adaptation is appropriate in matching mitigation and adaptation goals (Chen et al., 2016; Magnan, 2016). This could minimize the currently existing divergence between Articles 2 and 7 of the PaCA and the need to broaden research on the human dimension aspects of climate change to minimize such gaps in future (Castree, 2016). These gaps are critical concerns of the prominence attributed to mitigation in the Article 7 compared to adaptation and that the agreement was not without serious challenges (Dovie and Lwasa, 2017).

3. Enhanced adaptation and contributions to mitigation

3.1. Matching adaptation benefits and definition of Co-benefits

The limited attention paid to global level targets for adaptation is not new and contributes to its perceived disconnect with the ambitious targets of the NDCs (Chen et al., 2016; Dimitrov, 2016; Morselette et al., 2016). Therefore, mitigation has remained the focus of the PaCA, more so because “...countries have delayed taking real action for decades, quarrelling over costs and responsibility, failing to build trust, all the while continuing to pour greenhouse gases into the atmosphere” (Battersby, 2017, 8). Subsequently, adaptation could not be said to enjoy parity with mitigation in spite of the proposed 50/50 commitment and financing exhibited in the PaCA’s Article 9 Paragraph 4 and Article 10 paragraph 6, both emphasizing the balance between support for mitigation and adaptation (UNFCCC, 2015). Thus the equity offer between mitigation and adaptation relevantly comes with policy omission on adaptation because the latter has been demonstrated to contribute Co-benefits and could be harnessed to support emission reduction (Serrao-Neumann et al., 2015; Weng et al., 2017). Although Article 7 of the PaCA made provisions for adaptation to be recognized by all parties (UNFCCC, 2015), the Paragraphs were too broad, not demanding specific and binding commitments, with success tied to increased mitigation as in Paragraph 4. Yet the 2017 UNEP GAP report suggests that the carbon reductions pledged in Paris are woefully inadequate and would collectively only account for about a third of the needed emission reductions to meet the 2 degrees target (UNEP, 2017). On this basis, it is not known how mitigation is able to provide haven for adaptation not to attract additional costs. The local spatial scale and the short-term effect of adaptation should not become a basis for subsuming it under mitigation which is global in character but rather exploring the positive benefits related to the reduction of greenhouse gases such as through the maintenance of ecosystem services and sustainable agriculture. As far as policies aimed at mitigating GHGs can yield social benefits and costs, adaptation solutions could be enhanced to produce similar benefits locally and must be recognized with relevant scenarios and metrics (Chen et al., 2016).

Whilst large Co-benefits have been associated with energy and transportation, adaptation offers ancillary benefits for emission reduction through land and forest conservation which merit to be described as Co-benefits because they are enhanced with biodiversity management, nutrient recycling and water purification as part of the indicators. The IPCC recognizes that what could be seen as a GHG reduction programme from an international perspective may be seen, from a national perspective, as one in which local pollutants and GHGs are equally important (IPCC, 2001; Clémenson (2016), Dovie and Lwasa (2017), Jensen et al. (2013), Krieger et al. (2012), Puppim De Oliveira et al. (2013), van Oosterzee et al. (2014) and Spalding et al. (2014), are a few of analyses that have demonstrated that adaptation will not always come at additional cost when mitigation and adaptation were integrated because adaptation could offer the same benefits as for mitigation depending on the type of response measures. Subsequently the overarching statement of the Article 7 on the less importance placed on adaptation could become a case of climate injustice and travesty for resilience of developing countries, undermining efforts at mitigation. Hence it is at this level that adaptation solutions become supportive of mitigation programmes, yet the Article 7 of the climate change convention reduces the significance of this local perception at the international level. Therefore, the complementary portfolio of adaptation to make mitigation stronger is not new and originates from the green resilience literature (Fig. 2) (Winkelman and Udvarady, 2013), which Article 7 Paragraph 4 of the Paris agreement underrates. For instance, financing adaptation needed to be clearly separated from development budget support although there is strong convergence between the two and that, financing adaptation has synergistic outcomes for mitigation through Co-benefits. Thus efforts at mitigation could not stand alone unless adaptation was successfully implemented (Fig. 2).

3.2. The PaCA Article 7 at the local scale

Although it is not automatic for outcomes of adaptation to square mitigation, opportunities for greater synergy abound (Serrao-Neumann et al., 2015; Winkelman and Udvarady, 2013), for stronger and rewarding Paris Agreement texts on adaptation which must be fully explored. Unfortunately, the Paris agreement relegates the obligations of adaptation to individual countries (Dovie and Lwasa, 2017), because adaptation is predominantly local and often comes with short term outcomes, which subsequently undermines true multilateralism. Thus, adaptation policy goals are hardly determined by global level metrics (Chen et al., 2016), having unspecified quantitative targets and no weighting scheme developed to match mitigation especially in supporting the expansion of emission sinks. Without these, the Article 7 Paragraph 4 on having greater levels of mitigation slowing additional cost of adaptation is speculative and non-conforming. Additionally, adaptation has been associated with poor and low emitting countries which have very little bargaining power to bring about change within the climate change convention (UNFCCC, 2007). Enhanced adaptation however provides credible opportunity for raising mitigation ambition and protecting the ambitious targets for mitigation similar to the Co-benefits. The outcomes of the synergies between mitigation and adaptation are spontaneous, and normally translating into economic, social, and environmental outcomes which are often difficult to measure (Winkelman and Udvarady, 2013). The spontaneity therefore can be found in instances in landscapes with high risks of flooding yet having increased forest cover which reduces mudslides, accompanied by enhanced adaptive capacity and resilience. Although forest cover under circumstances of adaptation to reduce surface runoff that triggers flooding and mudslides was not intended as sink for carbon dioxide, it ultimately sequesters carbon which contributes to mitigation. Thus, direct interventions from deliberate programming of production technology, climate smart agriculture and ecosystem adaptation (Figs. 2 and 3), have emerged to deliver services having outcomes that support mitigation (IUCN, 2017; Munang et al., 2011; Neffaoui et al., 2012; Poudel, 2014). Human protection of the environment (Fig. 3), could result in resilient livelihoods and ecosystem services that ultimately support low emission development towards climate change mitigation (Munang et al., 2011). Conversely, poor biodiversity and ecosystem protection could reduce the effectiveness of ecosystems services as the support systems for human wellbeing and ecosystems, subsequently increasing exposures to climate change impacts (Fig. 3). Therefore, the role of sustainable food production systems in maintaining ecosystems (see Kesavan and Swaminathan, 2008; World Bank, 2007), as a form of adaptation to climate change and other global change issues that improve land and soil quality to sequestrate carbon must be recognized as a form of Co-benefit (Fig. 4).

4. Global climate change policy goals, Co-benefits and local development

4.1. Mitigation and adaptation trade-off challenges

Although adaptation policy goals do not always have measurable indicators compared to mitigation, its impacts extend beyond human
development issues when viewed from the SDG perspective as outlined in the Article 8 of the PaCA. Mitigation Co-benefits clearly aligns to, (i) SDG 7 on affordable and clean energy, (ii) SDG 9 on industry, innovation and infrastructure, (iii) SDG 12 on responsible consumption and production, and (iv) SDG 13, yet intersect with adaptation on the climate action (United Nations, 2015). Therefore, the PaCA and the SDGs are at crossroads and confounding to both mitigation and adaptation hence the justification not to relegate adaptation policies to country level only. Therefore, drawing strong and measurable links between PaCA’s Articles 2 and 7 outcomes on mitigation and adaptation respectively (UNFCCC, 2015), hinges on clearly defined synergies between the two. The recent non-responsiveness of most industrialized countries towards loss and damage attributed to climate change in countries of the South can be blamed on the weakly worded global adaptation policies that portrayed adaptation as having less value. Therefore, the Adaptation Committee tasked under the PaCA to facilitate the implementation of the enhanced action on adaptation in a coherent manner (UNFCCC, 2015), should put in measures to also resolve the trade-off challenges between mitigation and adaptation in aspects of Co-benefits. Broad trade-off are the goals of the causes and impacts of climate change, the scale of analyses and response including policy and institutions with adaptation experienced more at regional and local as opposed to global for mitigation, timescale as adaptation is shorter compared to mitigation and distribution of burden including vulnerabilities (IPCC, 2007; Thornton and Comberti, 2017; Tol, 2005). Emphasizing mitigation should not diminish adaptation but rather provide opportunities for enhanced adaptation which is comparable to Co-benefits (Figs. 2 and 3). Yet there is need for new forms of multi-level governance of

Fig. 2. Synergies between adaptation and mitigation in building green resilience (Winkelman and Udvardy, 2013).

Fig. 3. Links between Ecosystem-based Adaptation and climate change, demonstrating that reducing ecosystem degradation and embarking on good biodiversity and ecosystem protection could result in climate change mitigation (Source: Munang et al., 2011).
the climate policy architecture including financing mechanisms and response measures for enhanced adaptation to effectively protect the integrity of emission reduction hence the NDCs (Dovie and Lwasa, 2017). Therefore, Article 2 of the PaCA cannot be said to be flawless because the far-reaching effects of (i) how much GHGs can be removed from the atmosphere and at what time intervals and (ii) in which sectors, without offsetting the global balance of the GHGs and affiliate gases are still being debated (Williamson, 2016). The interpretations of Articles 2 and 7 on mitigation and adaptation have therefore evolved the no-regret approach to adaptation and climate resilient development to provide befitting complementarities for emission reduction.

4.2. Future of adaptation policy actions

Unless an improved policy framework was pursued, the PaCA Articles that favor mitigation appear to be stifling the attainment of adaptation which is seen as the problem of the poor and deprived, and reinforcing suspicions of minilateralism (views of least resourced countries weighted less) by the developed world. Similarly, the delayed consensus on assigning measurable targets to adaptation goals meant that the world, supervised by industrialized countries would continuously burn more fossil fuels every year to add to the threshold of GHGs (Spash, 2016; Buxton, 2016). This is more so very significant because the emphasis of the UNFCCC Conference of Parties’ (COP) decisions on mitigation goals and the ambitious targets of the NDCs heighten the supremacy of few industrialized countries to overlook adaptation concessions of already weak non-industrialized countries. This means that the adaptation policy orientation and the human dimensions of the PaCA architecture should not be marginal to mitigation (Christoff, 2016; Nilsson, 2017). Clarifying the parity between mitigation and adaptation should therefore provide window for integrating SDGs for instance to strengthen GHG stabilization and to avoid maladaptation (Kinley, 2017). Whilst it is important to appreciate the complexity associated with adaptation in terms of several non-measurable outcomes (Dessai and van der Sluijs, 2007; Rosenzweig and Francesco, 2006), indicators linking mitigation and adaptation will help impact positively on emission reduction. The UNEP emission GAP states that “the gap can be closed before 2030 by adopting already known and cost-effective technologies, often by simply adopting or adapting best practice examples already deployed in the most innovative country contexts” (UNEP, 2017, page xiv), which strongly puts adaptation in the picture as opposed to it being a shadow of Article 7 of the PaCA. Inferring from this, adaptation could support clean energy and transport, industry, innovation and production, hence the need to overcome major institutional traps that have confined adaptation policy actions to individual countries and their domestic development. Institutional traps are bottlenecks and mishaps of policy origins that tend to undermine the capacities of institutions to take timely policy decisions on appropriate response measures to climate change (Lebel et al., 2011), rather than those who failed to coordinate and negotiate at COP as alleged by Barrett (2016). Therefore, the legality of the PaCA over the global adaptation goals will be upheld if country level adaptation issues and policy outcomes are scaled and given measurable recognition within the global policy framework. The appreciation of how much ecosystem-based adaptation, climate smart agriculture and green growth which are development oriented demonstrate mitigation potentials through Co-benefits (Dovie, 2017; FAO, 2013; Munang et al., 2011; Poudel, 2014), meant that mitigation can similarly be institutionally trapped.

5. Conclusion

Adapting to climate change offer benefits especially through improved sinks to internalize efficiency to reduce costs attributed to additional adaptation yet will require globally acceptable metrics to establish. Thus adaptation portfolios are becoming comprehensive and anticipatory such that they offer opportunities for resource maintenance and sustainability for informed benefits to reducing GHGs. Therefore there is need for the PaCA to broaden the definition of mitigation Co-benefits using its Article 7 Paragraph 4 to ensure that greater levels of adaptation equally contributes to reducing additional adaptation to physical exposures to climate change. The means by which adaptation could support mitigation and contribute to Co-benefits include (i) development-based natural resource management; (ii) integrated water resources management, (iii) sustainable agriculture, (iv) ecosystem services, (v) biodiversity conservation and (vi) bioenergy resource management. Therefore, the outcomes of enhanced adaptation can

Fig. 4. A Climate-Smart Agriculture showing the interrelationships between resilience, food security, mitigation and adaptation in avoiding tradeoffs, and creating synergies (Neufeldt, 2013).
deliver cost-effective emission reduction benefits and would require policy status change under the PaCA’s especially the Article 7 if it was to support sustainable development outcomes (Articles 2 and 8). Therefore Article 7 of the PaCA require some rethinking as part of the on-going Post-Paris stocktaking and roadmap by 2020 to bring policy actions on adaptation at par with mitigation. Therefore, targeting policy reforms within the global climate policy regime to make adaptation attractive in recognition of links to mitigation using Co-benefits should incentivize industrialized countries to support adaptation missions and reforms. Thus, there is need to consciously inspire adaptation policy actions at the global level that result in enhanced adaptation action with benefits to complement Co-benefits towards the ambitious targets of the NDCs which is mostly pro-mitigation.

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References


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